QUIZ

If we peeked at the following queue, what value would be returned, and what would the new queue look like from back to front?

```
Queue: [Charlie, Bob, Ann]
Front: Ann
Back: Charlie
```

Return Value: Charlie, Queue: [Bob, Ann]

Return Value: Charlie, Queue: [Charlie, Bob, Ann]

Return Value: Ann, Queue: [Charlie, Bob, Ann]

👏 Correct! "Peeking" at the queue only returns the value from the front of the queue. It does not remove the value.

If the following queue was implemented using a linked list, what would the linked list look like if "Adam" was enqueued?

```
Queue: Charlie -> Bob -> Ann
Front: Ann
Back: Charlie
```

Ann → Bob → Charlie → Adam

Adam → Charlie → Bob → Ann

👏 Correct! Because queues follow a First In First Out structure, the value enqueued onto the queue will become the tail node in a linked list.

In what case would queue underflow occur?

Enqueuing data onto an empty queue.

Dequeuing data from an empty queue

👏 Correct! If the queue is empty, then there is nothing in the queue to dequeue. Therefore, dequeuing data from the queue will result in queue underflow.

Dequeuing data from a full queue.

Enqueuing data onto a full queue.

In which of the following scenarios, would a queue **NOT** be the ideal data structure to model the situation?

Waiting in line for groceries.

Pile of dirty plates in the sink.

👏 Correct! In a stack of dirty plates in the sink, the last dish placed will be at the top of the stack and will be the first one washed. This is a Last In, First Out structure, like a stack, not queue.

Cars sitting through traffic.

If we dequeued a person from the following queue, what would be returned, and what would the new queue look like from back to front?

```
Queue: [Charlie, Bob, Ann]
Front: Ann
Back: Charlie
```

Return Value: Ann, Queue: [Charlie, Bob, Ann]

Return Value: Charlie, Queue: [Bob, Ann]

Return Value: Charlie, Queue: [Charlie, Bob, Ann]

Return Value: Ann, Queue: [Charlie, Bob]

👏 Correct! Dequeuing from the queue removes and returns the value from the front of the queue.